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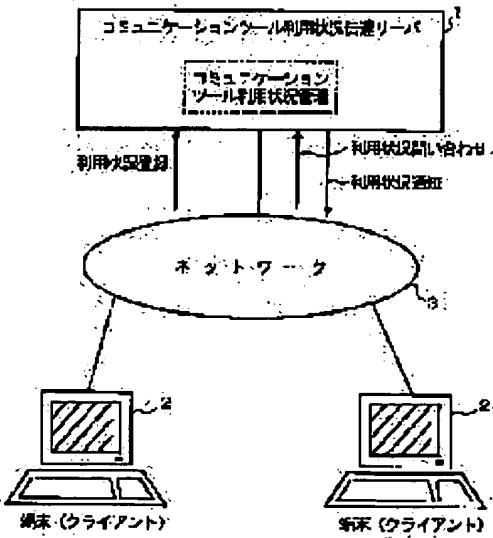
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(54) METHOD OF TRANSMISSION FOR UTILIZATION STATUS OF COMMUNICATION TOOL, ITS SERVER DEVICE, CLIENT TERMINAL AND PROGRAM RECORDING MEDIUM FOR THEM

(57)Abstract:

PROBLEM TO BE SOLVED: To select a proper communication tool by recognizing in advance a communication utilizing state of an opposite party with which communication is desired.

SOLUTION: In a system where users having terminals 2, 2', ... connectable to a network utilize a plurality of communication tools, a communication tool utilizing state including available communication tools relating to a user name and ID to specify a client such as a mail address and an IP address required to use the tools is registered to a server 1, and the server 1 informs the client terminals 2, 2', ... of the communication tool utilizing state with respect to an inquiry from the client terminals 2, 2',



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DETAILED DESCRIPTION

[Detailed Description of the Invention]**[0001]**

[Field of the Invention] This invention relates to the record medium which stored the program for realizing the approach for supporting suitable communication tool selection, its server equipment and client terminal unit, and it, when the user who possesses the communication tool containing two or more communication tool or two or more media transmits the use situation of his own communication tool mutually.

[0002] A communication tool is a client program for people and a man to communicate. Such a client program can be classified into four. The element for a classification is whether to use two or more media [be / it / multiuser correspondence].

[0003] Multiuser correspondence points out that communication of one-pair ** can be performed by using a client program. Media are information medias, such as an alphabetic character, voice, and an image.

[0004]

[Description of the Prior Art] There is a thing indicated by ICQ (<http://www.mirabilis.com/>) etc. to transmit the situation of whether the communication tool has started on the Internet conventionally. Moreover, there is a thing indicated by telephone directory service ("telephone directory system for Internet telephone" information processing 54 ** size B8 March, 1997 [-91 or] besides Watanabe) etc. to transmit the situation of whether it is "under use" whether it is "under starting."

[0005] The client program has started "during starting" and it means that a partner's alphabetic character utterance, voice utterance, or image is ability ready for receiving here. "During use", when the client program supports multiuser, it means that the utterance by people is transmitted to the server. On the other hand, a client program means transmission or reception of the as opposed to [the case of communication of 1 to 1] partner in "under use" conversation utterance when multiuser is not supported.

[0006]

[Problem(s) to be Solved by the Invention] However, when the communication partner is using together the communication tool containing two or more communication tool or two or more media with the conventional technique mentioned above, it sets. Since all tool or which media is not understood that current starting is carried out or whether to carry out current use, For example, when an alphabetic character message tended to be transmitted and it was going to communicate with a multiuser compatible alphabetic character chat tool, although a communication partner is starting an alphabetic character chat tool, since it was not under use, there was a problem that no response was obtained.

[0007] The purpose of this invention is by getting to know a communication partner's use situation in advance to offer a means to transmit the communication tool use situation for supporting selection of a suitable communication tool.

[0008]

[Means for Solving the Problem] A user registers alternatively the communication tool containing two

or more communication tool or two or more media into a server, and this invention is characterized [main] by transmitting and receiving a use situation alternatively in order to solve said technical problem.

[0009] Registering into a server the communication tool use situation which contains the available communication tool related with the user name, and ID which specifies clients, such as a mail address required in order to use it, and an IP address, in the system by which each user who possesses the terminal which can specifically connect this invention to a network uses two or more communication tools, a server notifies a communication tool use situation to the inquiry from the terminal of a client. Thereby, a client can know in advance the use situation of the partner who wants to communicate.

[0010] Moreover, the class of media which the class of communication tool or a communication tool treats, the information on whether the communication tool has started, and the information on whether a communication tool is using it are made to be included in the communication tool use situation which a server manages at least. Thereby, a suitable communication tool or media can be chosen now in a client.

[0011] It becomes possible to manage the use situation of the newest communication tool in a server, without a user operating it each time by the terminal of a client identifying automatically use situations -- whether when transmitting to a server from the terminal of a client, the class of communication tool and the tool have started the use situation of the communication tool which a user possesses, and whether a tool is using it -- and transmitting.

[0012] Moreover, a means to choose the contents of the use situation transmitted [use / whether when transmitting to a server from the terminal of a client, the class of communication tool and the tool have started the use situation of the communication tool which a user possesses, and / it / a tool] based on setting information is established. Thereby, a user can make the information secret, when there is information which be not known to other users -- whether the existence of a specific communication tool and a communication tool specific now are under use.

[0013] Moreover, a means to choose the contents of the use situation received [use / whether when the terminal of a client receives from a server, the class of communication tool and the tool have started the use situation of the communication tool which a user possesses, and / it / a tool] based on setting information is established. Thereby, reception of unnecessary information can be inhibited in advance.

[0014] Moreover, a means by which the terminal of a client receives automatically use situations -- whether the class of communication tool and the tool have started the use situation of the communication tool of the partner who is going to communicate when the terminal of a client receives from a server, and whether a tool is using it -- from a server for every predetermined time amount is established. Thereby, the terminal of a client can hold the use situation of the communication tool of real time mostly, even when a user does not operate it.

[0015] A program for the computer of server equipment or a client terminal unit to realize each above processing means is storables in suitable storages, such as portable medium memory which a computer can read, semiconductor memory, and a hard disk.

[0016]

[Embodiment of the Invention] Hereafter, the gestalt of operation of this invention is explained using a drawing. Drawing 1 shows the configuration of the whole system of this invention, among drawing, in one, communication tool use situation transfer server (henceforth server), 2, and 2' expresses the terminal of a client, and 3 expresses a network.

[0017] The communication tool related with each user's user name, a mail address required in order to use it, an IP address, etc. are registered and managed by the server 1. The client program for transmitting the use situation of a communication tool is installed in a terminal 2 and 2'. When a situation changes, for every at any time or predetermined time amount, a terminal 2 and 2' transmit to a server 1, and register the use situation of a communication tool. A server 1 manages each terminal 2 and the use situation of the communication tool received from 2', and notifies the demanded use situation of a communication tool to an inquiry of a terminal 2 and the use situation from 2'.

[0018] Drawing 2 is the block diagram showing the example of a configuration of the communication tool use situation transfer server 1. The device control section 10 is a part which controls the whole

equipment by an operating system etc. The network interface section 11 is a connection interface with the network 3 shown in drawing 1. The communications control section 12 is a part which performs control which transmits and receives data among other equipments through a network 3. The command analysis section 13 is a part which analyzes the command described by the received data and decodes the demand from other equipments.

[0019] A communication tool use situation means of communication 14 manages a communication tool use situation, is a means to transmit the use situation of a communication tool according to the demand from the terminal of a client, and has the following means.

[0020] A control means 15 is a part which performs control for communication tool use situation transfer. Transmitting packet creation / sending-out means 16 is a means to packet-ize communication tool use situation data, and to transmit to the terminal of a requiring agency through the communications control section 12. The use situation data origination means 17 is a means to create the data for notifying the corresponding communication tool use situation which was read from the communication tool use situation management file 19 through the communication tool use situation management tool 18 to an inquiry of a communication tool use situation. The communication tool use situation management tool 18 is a means to store and manage the communication tool use situation notified to the communication tool use situation management file 19 from the terminal of each client.

[0021] Drawing 3 is the block diagram showing the example of a configuration of the terminal 2 shown in drawing 1. In addition, other terminal 2' etc. is the same. The device control section 20 is a part which controls the whole equipment by an operating system etc. The network interface section 21 is a connection interface with the network 3 shown in drawing 1. The communications control section 22 is a part which performs control which transmits and receives data among other equipments through a network 3.

[0022] Communication tool use situation transmission and the inquiry means 23 are means to perform notice to the server 1 of the communication tool use situation in the end of a local, and processing which asks a server 1 other users' communication tool use situation, and has the following means.

[0023] A control means 24 is a part which performs notice of a communication tool use situation, and control for an inquiry of a communication tool use situation. The communication tool use situation data origination means 25 is a means to identify automatically the use situation of the communication tool possessed at any time or periodically in the end of a local, and to create the data. Packet creation transmission and the packet receiving means 26 are means to receive the packet which packet-ized the data which the communication tool use situation data origination means 25 created, and transmitted to the server 1 through the communications control section 22, and reached self-equipment from the exterior. The communication tool use situation inquiry means 27 is a means to perform demand of a user or processing which asks a server 1 the use situation of other users' communication tool periodically. Moreover, the communication tool use situation inquiry means 27 displays the communication tool use situation held to the User Information management file 28 by the demand from a user on a display 29. The User Information management file 28 is a file for holding User Information of the received communication tool use situation.

[0024] The common input/output equipment of a display 29, a mouse 30, and keyboard 31 grade is connected to a terminal 2. Furthermore, the camera for TV phones etc. may be connected.

[0025] Drawing 4 shows an example of the user list registered into the terminal 2 of a client. As preparation for receiving a communication tool use situation, registration of User Information to a server 1 and the registration of a user name which serves as a communication partner to the terminal 2 of a client are needed. For example, as a result of registering a user name to a terminal 2, the registered user list is displayed like drawing 4 on a client.

[0026] Drawing 5 shows an example of the communication tool use situation list of communication partners. The terminal 2 of a client receives the information on a communication tool use situation by asking a server 1 a communication tool use situation. This is displayed by list form as shown in drawing 5.

[0027] In the example of drawing 5, in the terminal of the partner who wants to communicate, the

communication tool of an "Internet telephone", a "electronic mail receiving tool", the "Internet TV telephone", and a an "alphabetic character chat tool" is starting, and it indicates that an "alphabetic character chat tool" is using it in this.

[0028] For example, by sending a certain document, and getting to know the use situation of a partner like drawing 5 arguing with the partner who is present in overseas about the document After sending a document by e-mail from now on, the Internet telephone which money does not require should discuss. since it turns out that a communication partner's remark is transmitting while an alphabetic character chat tool uses it that is, -- an alphabetic character chat tool -- appeal -- "-- Selection of the communication approach, such as ", can be told.

[0029] Drawing 6 shows an example of the media use situation list included in a communication partner's communication tool. When the terminal 2 of a client asks a server 1 a communication tool use situation and the communication tool contains two or more media (an alphabetic character, voice, image), the information on a communication tool use situation including the class of the media is received. It displays by list form as shows the use situation about the class of these media to drawing 6.

[0030] For example, although the communication tool supports multiuser, when an unfamiliar user wants to talk with other users and voice to an alphabetic character chat tool, by getting to know the use situation of a partner like drawing 6 shows that a voice utterance is ability ready for receiving, while starting voice media that is,. This, it can address with voice.

[0031] Drawing 7 is a processing flow chart at the time of transmitting communication tool use situation data to a server 1 from the terminal 2 of a client. In drawing 7, processing is started (step S1), the client program of communication tool use situation transmission and the inquiry means 23 is started (step S2), and it connects with a server 1 (step S3). Then, the communication tool use situation data which transmit information about the use situation of a communication tool which should transmit was chosen based on the setting information beforehand set up by the transmitting contents selection menu etc. (step S4), the communication tool use situation data-origination means 25 performed automatic discernment of a communication tool use situation, created the data (step S5), and were created to the server 1 transmit (step S6). Then, it judges whether n seconds of the time amount defined beforehand passed (step S7), and when it passes, processing repeats periodically discernment of return and the use situation chosen similarly, and transmission to a server 1 just before step S4. When having not passed, it waits for n seconds to pass. Even when a communication tool use situation changes with the above procedure, the newest use situation can be notified to a server 1.

[0032] Drawing 8 is a processing flow chart about use situation discernment of the communication tool in step S5 of drawing 7. In drawing 8, if processing is started (step S11), the tool execution file name in self-equipment will be searched first, and the communication tool which a client possesses will be identified (step S12). Next, it identifies whether a communication tool is starting by whether the execution file of a communication tool is carrying out current activation (step S13).

[0033] It identifies whether the communication tool judges whether it is a thing corresponding to multiuser (step S14), and in being a thing corresponding to multiuser, a communication tool is using it by whether the communication tool has transmitted an alphabetic character, voice, and image data to the server 1 (step S15). On the other hand, when a communication tool is not multiuser correspondence, it identifies whether a communication tool is using it by whether the communication tool has received an alphabetic character, voice, and image data from transmission or a partner as the communication partner (step S16).

[0034] About the above discernment result, based on selection of the transmit information using the setting information set up beforehand, the data of a communication tool use situation are created, the packet for notifying to a server 1 based on it is created (step S17), and processing is ended (step S18).

[0035] Drawing 9 is a processing flow chart at the time of receiving communication tool use situation data from a server 1 to the terminal 2 of a client. In drawing 9, processing is started (step S21), the client program of communication tool use situation transmission and the inquiry means 23 is started (step S22), and it connects with a server 1 (step S23). Then, receipt information about a communication tool use situation which wants to receive using the setting information by a receiving contents selection

menu etc. is chosen (step S24), and a communication tool use situation is received from a server 1 (step S25). In selection of receipt information, selection of the receiving contents, such as selection of the communication tool use situation about a specific user and the class of media, is possible beforehand. Then, it judges whether m seconds of the time amount defined beforehand passed (step S26), and when it passes, processing repeats return just before step S24, and repeats periodically selection of receipt information, and reception of a communication tool use situation to this appearance. When having not passed, it waits for m seconds to pass.

[0036] By the above processing, even when a user does not operate it, the terminal 2 of a client can receive a communication tool use situation automatically, and can hold the newest use situation. In addition, only when it does not receive periodically but there is a demand from a user, it asks a server 1 and you may make it receive a required communication tool use situation.

[0037] Drawing 10 is a processing flow chart after choosing other users of arbitration who want to communicate until it chooses a communication tool or media.

[0038] In drawing 10, processing is started (step S31), other users of arbitration who want to communicate from a user list as shown in drawing 4 are chosen (step S32), and the communication tool use situation list which other users of arbitration registered into the server 1 as shown in drawing 5 R>5 is displayed (step S33). Then, when the communication tool considered to be suitable to communicate is chosen (step S34), it judges whether this tool contains two or more media (step S35) and two or more media are included, a communication tool is chosen and a media use situation list as shown in drawing 6 is displayed (step S36). Then, the communication media considered to be suitable to communicate are chosen (step S37), and processing is ended (step S38).

[0039] In step S35, if the selected communication tool does not contain two or more media, processing is ended here (step S38).

[0040]

[Effect of the Invention] As explained above, in order to talk, according to this invention, the optimal communication tool can be chosen by getting to know the use situation of the communication tool of the partner who wants to communicate.

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CLAIMS

[Claim(s)]

[Claim 1] A terminal connectable with a network In order that each user who possesses may use the available communication tool which is the communication tool use situation transfer approach of transmitting the situation of using two or more communication tools used on a terminal, and was related with the user name, and it Register into a server the communication tool use situation containing ID which specifies clients, such as a required mail address and an IP address, and an inquiry is received from the terminal of a client. The communication tool use situation transfer approach characterized by notifying the communication tool use situation which said server manages.

[Claim 2] Said communication tool use situation is the communication tool use situation transfer approach according to claim 1 characterized by including the class of media which the class of communication tool or a communication tool treats, the information on whether the communication tool has started, and the information on whether a communication tool is using it.

[Claim 3] The communication tool use situation transfer approach according to claim 1 characterized by for the terminal of a client identifying automatically use situations -- whether the class of communication tool and the tool have started the use situation of the communication tool which an applicable user possesses when transmitting to a server from the terminal of a client, and whether a tool is using it -- and transmitting.

[Claim 4] The communication tool use situation transfer approach according to claim 1 characterized by to choose the contents of the use situation transmitted [use / whether when transmitting to a server from the terminal of a client, or when the terminal of a client receives from a server, the class of communication tool and the tool have started the use situation of the communication tool which an applicable user possesses, and / it / a tool], or the contents of the use situation receive based on setting information.

[Claim 5] The communication tool use situation transfer approach according to claim 1 characterized by the terminal of a client receiving automatically use situations -- whether the class of communication tool and the tool have started the use situation of the communication tool of the partner who is going to communicate when the terminal of a client receives from a server, and whether a tool is using it -- from a server for every predetermined time amount.

[Claim 6] In order to use it, the available communication tool which is server equipment for transmitting the situation of using two or more communication tools which each user who possesses a terminal connectable with a network uses on a terminal, and was related with the user name, and A means to manage the communication tool use situation containing ID which specifies clients, such as a required mail address and an IP address, Communication tool use situation transfer server equipment characterized by having a means to notify said communication tool use situation, to the inquiry from the terminal of a client.

[Claim 7] A terminal connectable with a network The class of media which the class of communication tool or communication tool which is the client terminal unit which receives the situation of using two or more communication tools which each user who possesses uses on a terminal, from server equipment,

and the end of a local possesses treats, A means to create communication tool use situation data including the information on whether the communication tool has started, and the information on whether a communication tool is using it, The created communication tool use situation data by means to transmit to said server equipment for every at any time or predetermined time amount, and demand of a user Or the client terminal unit characterized by having a means to receive communication tool use situation data from said server equipment for every predetermined time amount.

[Claim 8] A terminal connectable with a network In order to use it, the available communication tool which is the record medium which recorded the program which the server equipment for transmitting the situation of using two or more communication tools which each user who possesses uses on a terminal uses, and was related with the user name, and The processing which manages the communication tool use situation containing ID which specifies clients, such as a required mail address and an IP address, The program documentation medium for communication tool use situation transfer servers characterized by recording the program which makes a computer perform processing which notifies said communication tool use situation to the inquiry from the terminal of a client.

[Claim 9] A terminal connectable with a network The class of communication tool which is the record medium which recorded the program which the client terminal unit which receives the situation of using two or more communication tools which each user who possesses uses on a terminal, from server equipment uses, and the end of a local possesses Or the class of media which a communication tool treats and information on whether the communication tool has started, The processing which creates communication tool use situation data including the information on whether a communication tool is using it, The created communication tool use situation data by the processing transmitted to said server equipment for every at any time or predetermined time amount, and demand of a user Or the program documentation medium for client terminals characterized by recording the program which makes a computer perform processing which receives communication tool use situation data from said server equipment for every predetermined time amount.

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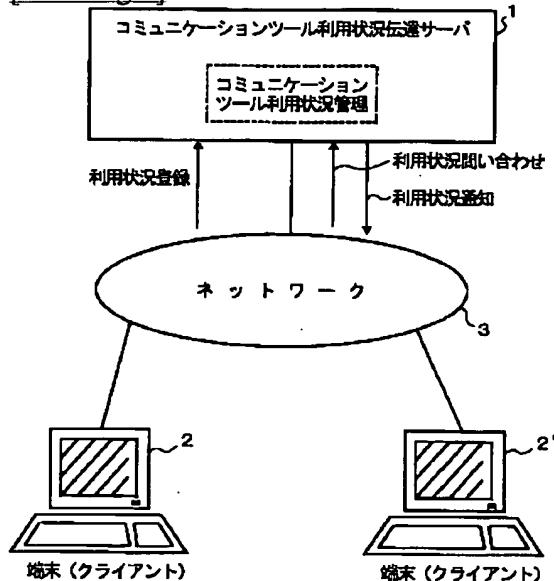
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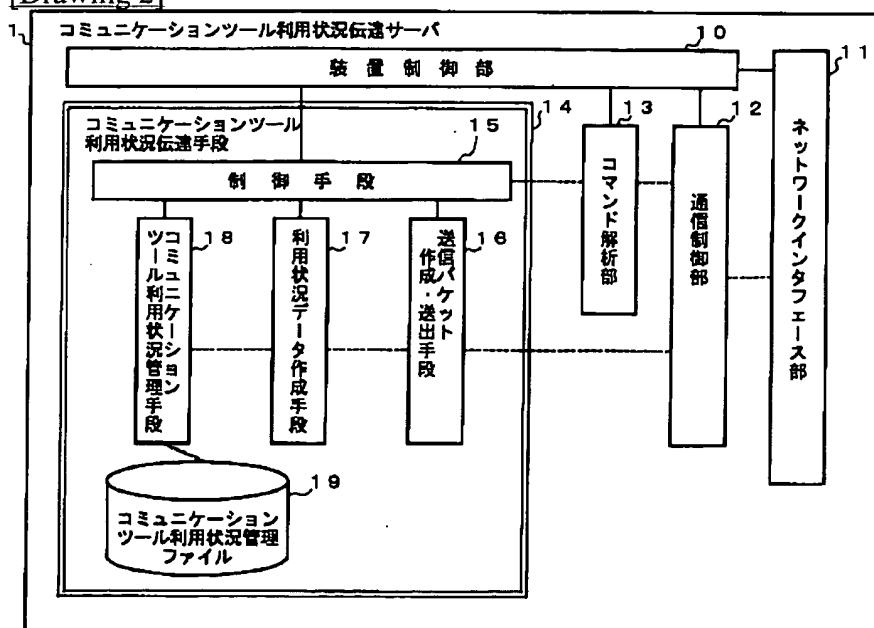
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DRAWINGS

[Drawing 1]



[Drawing 2]



[Drawing 4]

ユーザ1
ユーザ2
ユーザ3
⋮

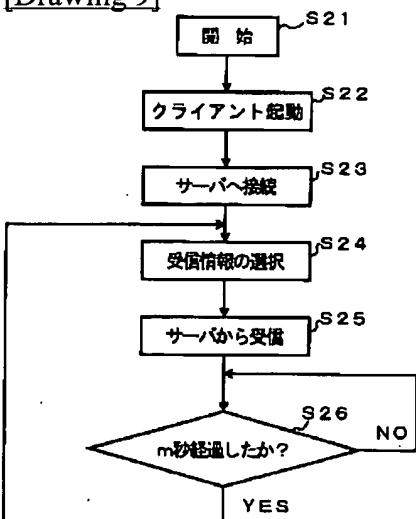
[Drawing 5]

コミュニケーションツール	起動	使用
インターネットスペース	×	×
インターネット電話	○	×
電子メール受信ツール	○	×
インターネットTV電話	○	×
文字チャットツール	○	○
⋮	⋮	⋮
⋮	⋮	⋮

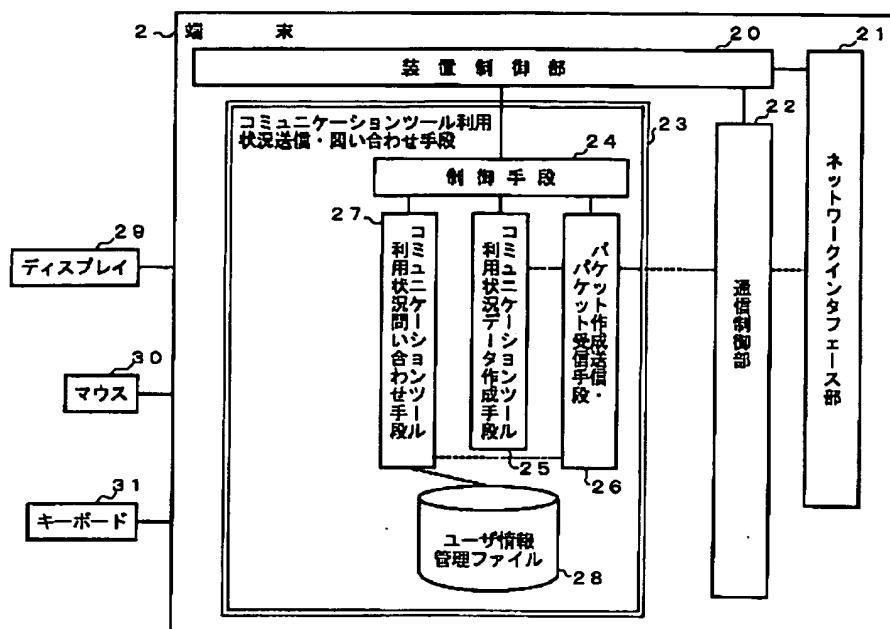
[Drawing 6]

メディア	起動	使用
文字	○	○
音声	○	×
映像	○	×
⋮	⋮	⋮
⋮	⋮	⋮

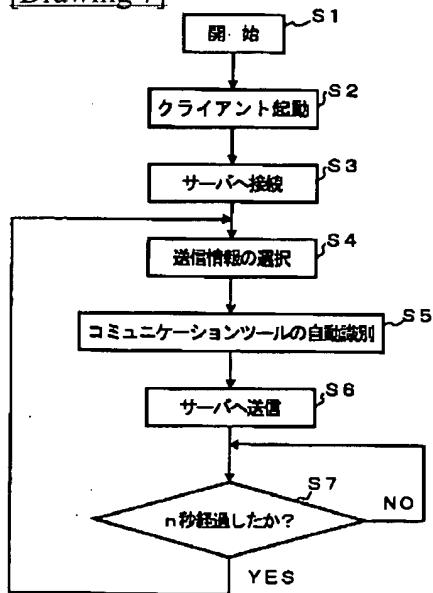
[Drawing 9]



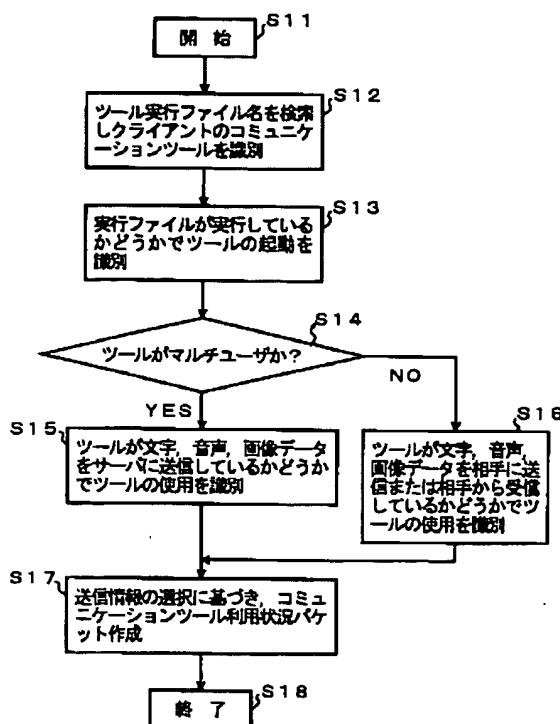
[Drawing 3]



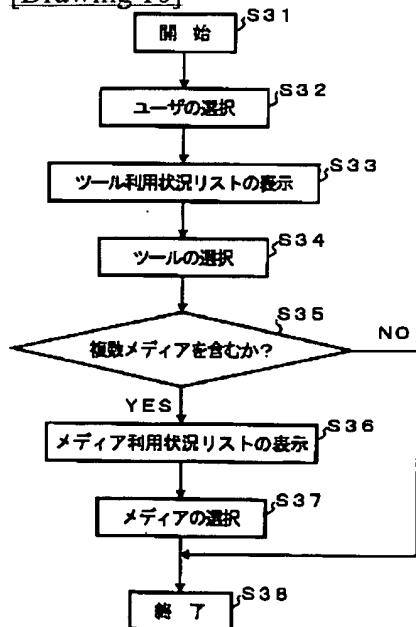
[Drawing 7]



[Drawing 8]



[Drawing 10]



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